PHILIPS

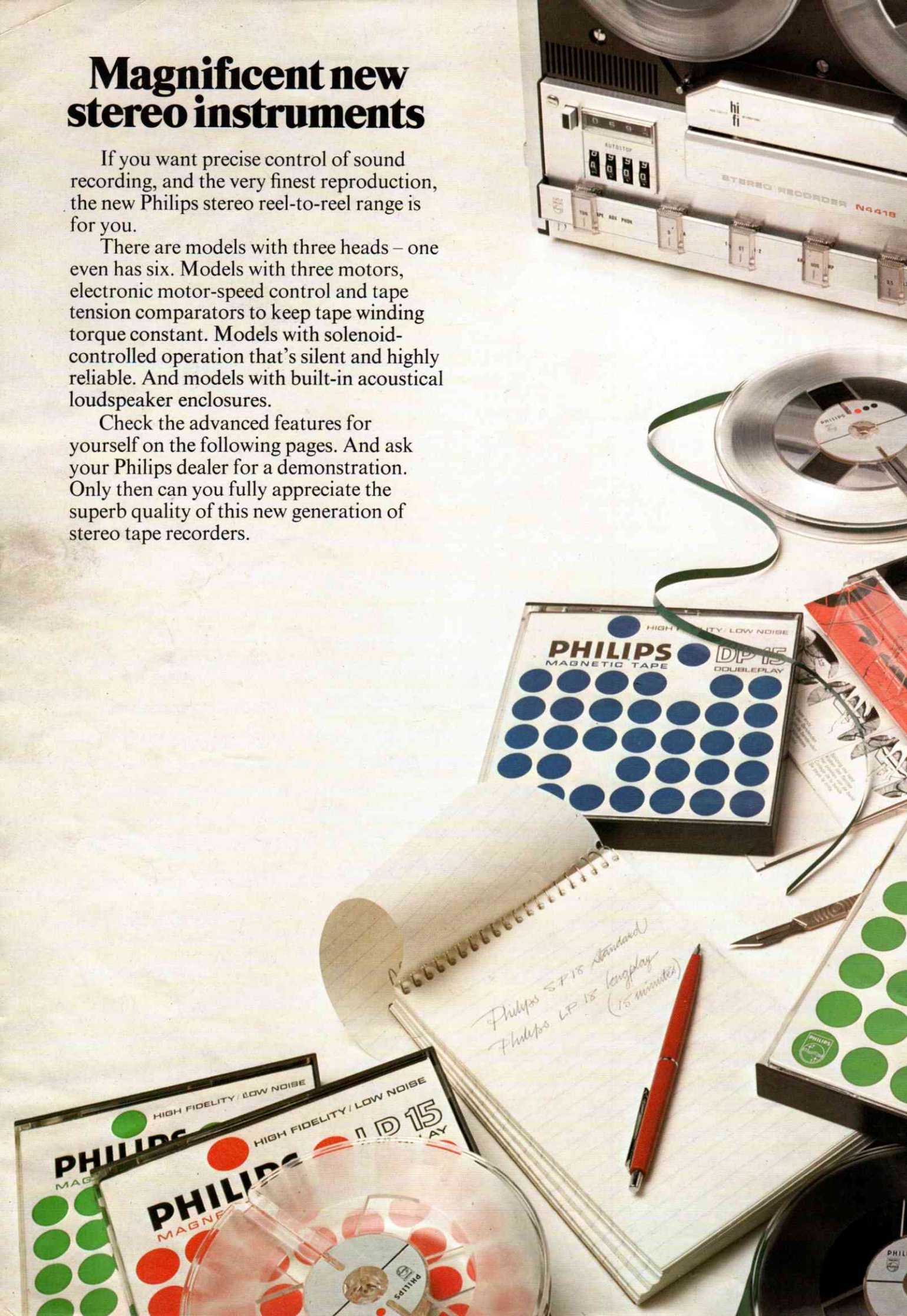
Philips reel-to-reel recorders.

Magnificent new stereo instruments

If you want precise control of sound recording, and the very finest reproduction, the new Philips stereo reel-to-reel range is for you.

There are models with three heads – one even has six. Models with three motors, electronic motor-speed control and tape tension comparators to keep tape winding torque constant. Models with solenoid-controlled operation that's silent and highly reliable. And models with built-in acoustical loudspeaker enclosures.

Check the advanced features for yourself on the following pages. And ask your Philips dealer for a demonstration. Only then can you fully appreciate the superb quality of this new generation of stereo tape recorders.



Glossary of tape recording terms

Mixing and Monitoring

You may wish to record sounds from two different sources, say from the microphone and a record player. The recorder accepts the sounds from the two inputs, each of which can be controlled, and records them simultaneously – this is mixing. To ensure that the two independent sound sources are correctly mixed, you listen to them either via the loudspeaker or via headphones plugged into the recorder – this is monitoring.

Parallel Track

Allows you to play back two separately recorded tracks at the same time. To hear both commentary and music, you record each on separate tracks – commentary on track 1, music on track 3 – and then play them back simultaneously.

Duoplay

Enables two separate recordings to be made so that one synchronises with the other. You record the first part on one track and rewind to the beginning. You then listen to this on headphones or through the loudspeaker, while you record on the second track in synchronisation with the first one.

Multiplay

Multiplay is an extension of Duoplay whereby more than two separate recordings can be combined. In addition to listening to the first recording, it is transferred to the new track at the same time that the second recording is made. Both recordings are now on one track.

Editing

To edit on your reel-to-reel recorder, you cut out the unwanted material and combine the rest on one shorter tape. An inexpensive Philips tape splicing kit SK10 makes this kind of editing easy.

Audio Systems

One way you will probably want to use your recorder is to put music on tape or cassette, so that you can gradually build a library for your own personal use.

It is important therefore that when you choose an audio system for listening to radio or records, you make sure not only of good reproduction but also that you can feed the music into your recorder.

Philips offer you a wide range of audio systems to meet these needs, the units in each system being closely matched to make the most of the music.

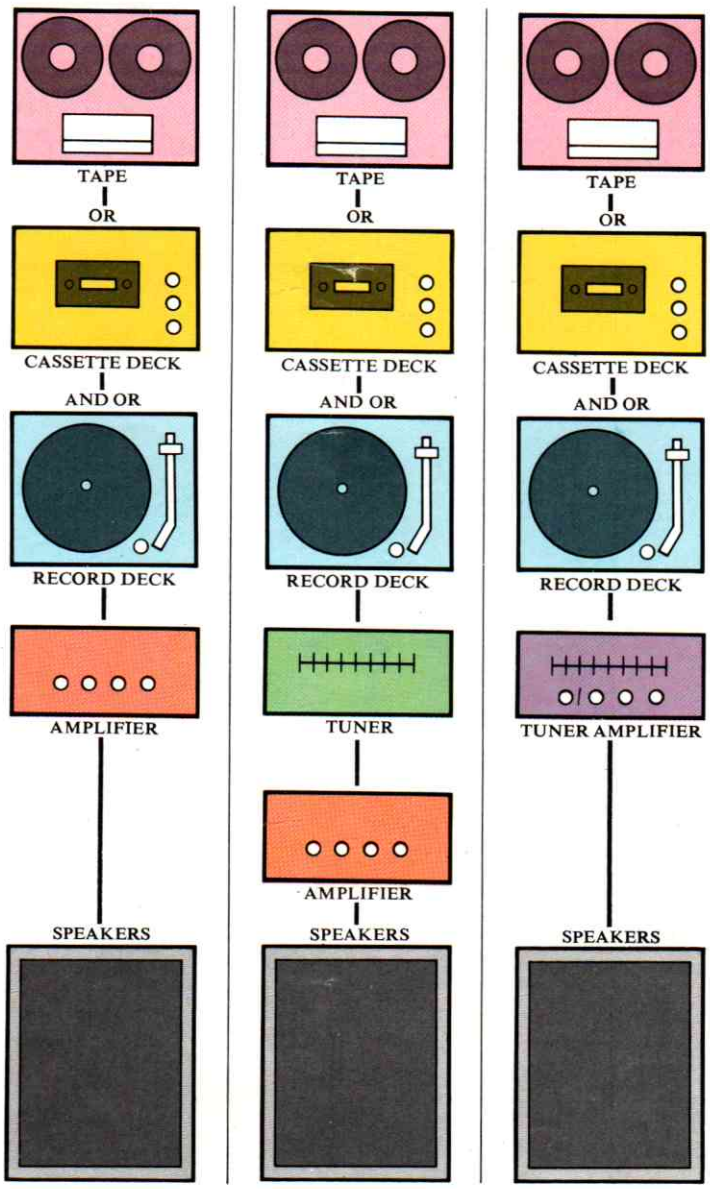
The choice offered is deliberately wide, so that you need buy only the facilities you actually need.

You might, for instance, choose a *complete* system of individual units – amplifier, radio tuner, record deck, tape recorder and two loudspeaker enclosures. Such a system would put the whole world of music at your fingertips.

On the other hand, you might prefer a more specialised system, offering reproduction from radio alone, or from records. It's even possible to buy a unit that combines a radio tuner, amplifier and cassette recorder in one slender, space-saving cabinet.

Most of the units containing a radio tuner can receive the BBC's VHF/FM stereo music broadcasts.

Ask your Philips Audio Specialist for the Philips Audio Systems brochure. Or write for a copy to Dept. TRCR, Philips Electrical Limited, Century House, Shaftesbury Avenue, London WC2H 8AS.



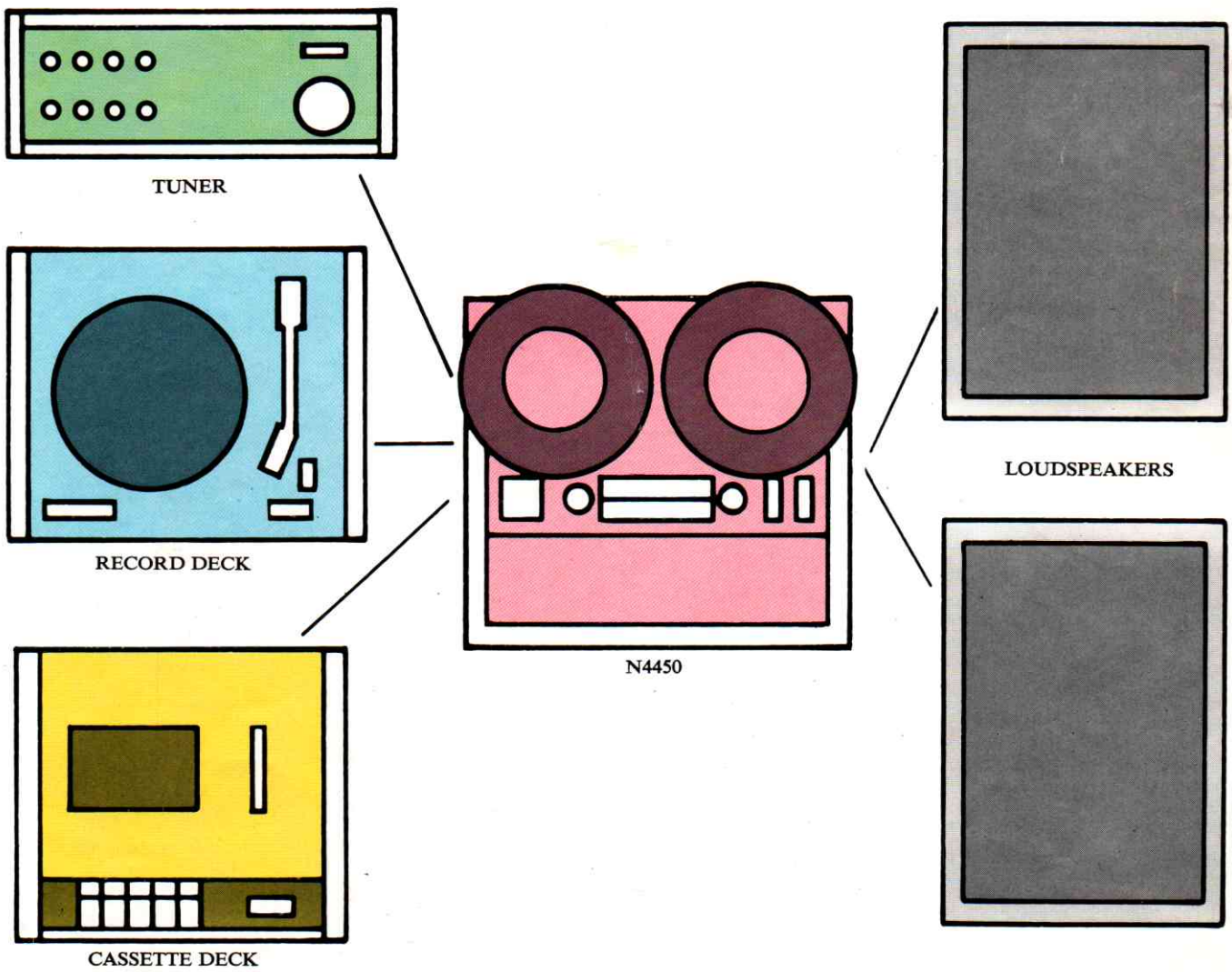
A Philips Recorder as the heart of a Hi-Fi System

Two of the Philips tape recorders in this book – the N4450 and N4418 – have genuine Hi-Fi stereo amplifiers *which can be used with the recorder motors switched off.*

These two recorders can therefore be used as the heart of a very high quality Hi-Fi system – you don't need to buy a separate amplifier.

They have most facilities for sophisticated control of all the inputs and outputs needed for a top Hi-Fi system. And have both the power and wide frequency response demanded by the most discriminating user.

It's like getting a top-quality Hi-Fi amplifier and recorder for the price of the recorder alone. Worth thinking about, isn't it?



Hi-Fidelity Automatic Reverse Stereo Tape Recorder N4450

Of all the hi-fi recorder/amplifiers on the market, this one offers the most to the discriminating user. It has three speeds, four tracks, an automatic reverse facility and a high-performance built-in amplifier.

Built to the DIN 45 500 Hi-Fi standard, its genuine 2 x 20 watts Hi-Fi amplifier can be used with the recorder motors switched off and has a full range of inputs, plus pushbutton rumble and scratch filters and physiological compensation on volume.

Starting, stopping, winding, braking, pause and automatic reverse are functions which are performed by means of solenoids, making the mechanical construction of the tape transport more simple and reliable. Moreover, these solenoids offer the feature of remote control of all functions.

There are connections for a record player, tuner, or a second recorder—such as a cassette recorder—or an electronic musical instrument.

Supplied with stereo recording/playback lead, $10\frac{1}{2}''$ reel of LP tape and $10\frac{1}{2}''$ empty spool.

TECHNICAL DATA:

Cabinet: Covered wood and polystyrene with aluminium trimmings

Colour: black

Dimensions: 54 × 50·8 × 23·5 cm ($21\frac{1}{4} \times 20 \times 9\frac{1}{4}$ inches)

Weight: 20 kg (44 lb)

Mains: 110, 127, 220, 240 volts

Mains frequency (Hz): 50 or 60

Mains consumption: 120 watts approx.

Tape speed: 19, 9·5, 4·75 cm/s ($7\frac{1}{2}$, $3\frac{3}{4}$, $1\frac{7}{8}$ ips)

Fast wind/rewind time: <250 seconds (3,600 ft) >150 seconds (1,800 ft)

Number of tracks: 4

Frequency response:
40-20,000 (Hz) at $7\frac{1}{2}$ ips
40-16,000 (Hz) at $7\frac{1}{2}$ ips (with built-in stereo interference filter):
40-15,000 (Hz) at $3\frac{3}{4}$ ips
60-8,000 (Hz) at $1\frac{7}{8}$ ips
} Within 6dB overall

Max reel diameter: $10\frac{1}{2}''$

Max playing time: 2 × 3 hours

Output power: 2 × 20 watts ±1dB

Signal to noise ratio: >48dB

Wow & flutter: ±0.15% at $7\frac{1}{2}$ ips DIN

Distortion: <1%

Number of heads: two erase heads; two recording heads; two playback heads

Number of motors: one Hall (brushless D.C. motor) for capstan drive; two D.C. motors for wind drive

Rumble filter: −10dB at 30 Hz

Scratch filter: −12dB at 15 kHz

Physiology: +14dB at 50 Hz, +6dB at 10 kHz

Microphone L and ST: Input 0.1 mV/2 kΩ. Input 0.2 mV/2 kΩ (mono recording with one microphone)

Microphone R: Input 0.1 mV/2 kΩ. Input 0.2 mV/2 kΩ (mono recording with one microphone)

Gramophone: Input 1.5 mV/47 kΩ (Magneto-Dynamic). Input 100 mV/1 MΩ (Crystal)

Auxiliary: Input 2 mV/20 kΩ. Input 100 mV/1 MΩ

Tape: Input 2 mV/20 kΩ. Input 100 mV/1 MΩ. Output 1V/50 kΩ (during playback)

Tuner: Input 100 mV/100 kΩ

Monitor: Output 1 V/50 kΩ

Headphones: Output 3V/400-600 Ω

Loudspeakers: Output 20W across 4-8 Ω

Remote control: Connection for remote control unit N6719 (available as an additional accessory)

Storage facilities: two ($10\frac{1}{2}''$) reels on recorder, lid removed. Two (7″) reels on recorder, lid installed.

Principal Features

1. Specification fully in accordance with DIN 45 500 (Hi-Fi Standard).
2. Suitable for:
   stereo and mono recording and playback;
   multiplay;
   echo during recording;
   A-B monitoring during recording;
   use as a Hi-Fi amplifier (motors and tape transport are switched off);
   mixing.
3. Four tracks.
4. Three speeds: 19, 9.5 and 4.75 cm/sec ($7\frac{1}{2}$, $3\frac{3}{4}$ and $1\frac{7}{8}$ ips).
5. Three-step winding speed control.
6. Reel capacity up to $10\frac{1}{2}''$ (26.5 cm).
7. Endless-tape reel can be used.
8. Selector switch for reel size.
9. Reels lockable by means of metal hub locks.
10. Three motors:
    one Hall motor (brushless DC motor) for capstan drive, two DC motors for reel drive.
11. Tape tension comparators for constant winding torque.
12. Six magnetic heads: two recording heads, two playback heads, two erase heads.
13. Both head-covers detachable.
14. Splicing device underneath lower head-cover.
15. Solenoid-controlled operation.
16. Full remote control (transport functions and recording mode), with N6719 remote control unit which features same illuminated tip-touch buttons as recorder (remote control unit is optional extra).
17. Illuminated tip-touch controls for transport functions and recording mode, with an electronic memory.
18. Slide switches for function selection: selected function will be illuminated.
19. Sliding see-through controls for recording and playback.
20. Push-buttons for rumble, scratch and physiology.
21. Automatic and manual reverse (continuous automatic reverse possible).
22. Four digit counter with push-button for zero reset.
23. Four digit "Auto-Stop" for stopping the tape at a predetermined indication of the counter, with push-button on/off switch.
24. Automatic stop at end of tape.
25. Countersunk socket panel.
26. Sockets for microphone, tape and headphones on front, covered by means of a blind.
27. Two calibrated, illuminated VU type meters for recording and playback level indication.
28. Recording stand-by, i.e. recording level adjustable with tape stationary.
29. Playback and monitoring during recording by means of connected loudspeakers (or headphones for personal listening).
30. Levers for cueing during fast forward and rewind.
31. Synchronous clock with built-in timing device for starting and stopping the recorder at any pre-determined time within a 24 hour period.
32. Wooden cabinet with black vinyl covering and silver-coloured trimmings.
33. Sunken carrying handle.
34. Transparent lid with hinged lower part for accessibility of controls.
35. Position of operation: vertical or horizontal.
36. Telescopic feet for greater stability in vertical position.
37. Suitable for AC mains of 110, 127, 220, 240V, and no conversion necessary for 50 or 60 Hz (except for clock).
38. Suitable for use under tropical conditions.
39. Integrated plug-in functional units for:
    pre-amplifiers for recording and playback power amplifiers, balanced bias and erase oscillators, electronic control of tape transport, correction circuits.
40. Improved serviceability:
    plug-in printed wiring boards; amplifier can be detached as one unit and recorder remains functioning; multi-pin connectors between amplifier and recorder.

Sliding recording controls for: microphone left, microphone right, other inputs ("recording"), echo and multiplay level.

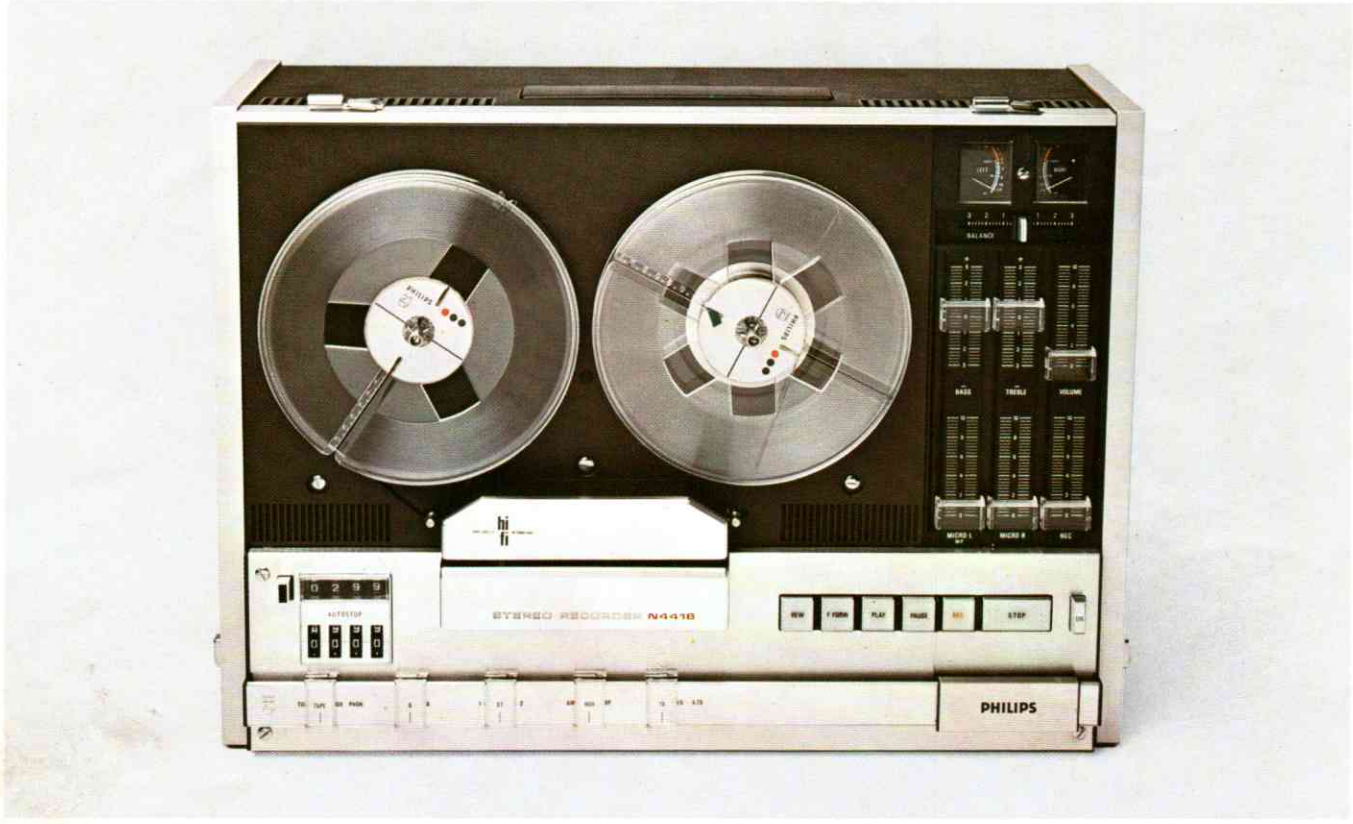
Sliding playback controls for: volume, balance, bass, treble.

Push-buttons for: scratch filter, rumble filter, physiology filter.

Head assembly with six magnetic heads for reverse operation, splicing device.

Connections for microphones, combined input/output and headphones, concealed by sliding cover.

Hi-Fidelity Stereo Tape Recorder N4418



This magnificent instrument betters the DIN 45 500 standard laid down for Hi-Fi.

Facilities include stereo and mono record and playback, multiplay, echo, A-B monitoring, and mixing. The genuine 2 x 12 watts ±1dB (RMS) Hi-Fi amplifier can be used with the recorder's motors and tape transport switched off.

Features include vertical or horizontal operation; separate magnetic heads for recording, playback and erase; three motors, including one capstan motor electronically governed to keep speed constant; tape tension comparators for constant winding torque; solenoid-controlled operation with illuminated tip-touch buttons for transport functions; remote control of transport functions and recording mode possible, using optional extra N6719 remote control unit; 4-digit tape counter, with autostop for stopping the tape at a pre-determined point; two illuminated calibrated VU-type meters for recording/playback level indication; two built-in loudspeaker boxes with 6″ x 4″ loudspeakers; supplied complete with a mono microphone, stereo connecting lead, 7″ reel LP tape, 7″ empty reel, library rack and 3 head-cleaning sticks.

TECHNICAL DATA:
Cabinet: Black polystyrene, wooden side panels with walnut veneer, black lacquered metal top plate. Front plate with aluminium trimmings
Dimensions: 51·4 × 38·1 × 19·7 cm (20¼ × 15 × 7¾ inches)
Weight: 12 kg (26½ lb)
Mains: 110, 127, 220, 240 volts A.C.
Mains Frequencies: 50 or 60 Hz
Tracks: Four
Tape Speeds:
19, 9·5, 4·75 cm
(7½, 3¾, 1⅞ ips)
Max Reel Size: 7″
Fast Wind/Re-Wind Time:
Less than 180 seconds 18 cm (7″) reel of LP tape (540 m)
Frequency Response:
within 6dB
40-20,000 (Hz) at 7½ ips
40-15,000 (Hz) at 3¾ ips
60-8,000 (Hz) at 1⅞ ips
Signal to Noise Ratio: ⩾50dB
Wow and Flutter:
⩽ 0.15% at 7½ ips ⩽ 0.2% at 3¾ ips ⩽ 0.35% at 1⅞ ips
Output Power: 2 × 6 watts through internal speakers
2 × 12 watts ±1dB through external speakers

Input and Output Sockets:
Microphone L and ST: Input 0.15 mV/2k Ω
Microphone R: Input 0.15 V/2k Ω
Gramophone: Input 1.5 mV/47k Ω
**Auxiliary:*
Input 2 mV/20k Ω.
Input 100 mV/1 MΩ
Radio/Amplifier
Input 2 mV/20kΩ.
Input 100 mV/1 MΩ
Output 1 V/50k Ω
**Tuner:* Input 100 mV/1 MΩ
Monitor: Output 1 V/50k Ω
Headphones: Output 3 V/400-600 Ω
Loudspeakers: Output 12W across 4-8 Ω
*NB Tuner and auxiliary sockets incorporate a stereo filter; in consequence the frequency range is limited to 16,000 Hz

OPTIONAL EXTRAS:
N6302 – Stereo Headphones.
N6719 – Remote Control Unit.
N8500 – Microphone.
N6206 – Microphone Connection/Extension Cable.
N6400 – Slide Synchroniser Unit.
CE10 – Endless Loop Reel.
SK10 – Splicing Kit.

Hi-Fidelity Stereo Tape Deck and Pre-Amplifier Unit N4510

This superb deck betters the DIN 45 500 (Hi-Fi) Standard and is an invaluable addition to your Hi-Fi system – it must be used with a separate amplifier.

Principal features are: horizontal or vertical operation; 3-speed 4-track stereo and mono recording and playback; multiplay, mixing, echo effects, A-B monitoring; solenoid-controlled operation; three motors, including one electronically governed DC capstan motor; three separate magnetic heads, one for erase, one for recording and one for playback; automatic stop at end of tape; 4-digit counter, zero reset, and on/off 'Autostop' to halt tape at pre-selected position; illuminated tip-touch controls for transport functions and recording mode; precise sliding controls; tape tension comparators for constant torque; detachable lower head cover for easy editing and cleaning; full remote control (optional extra remote control has illuminated tip-touch buttons); monitoring during recording; volume and balance controls for headphones; and sockets for headphones and microphones on front, under sliding lid.

Supplied complete with transparent detachable lid, 7″ LP tape, 7″ empty take-up spool, direct recording/playback lead and a mono microphone.

TECHNICAL DATA:

Cabinet: Black polystyrene cabinet, wooden side panels, with walnut veneer, black lacquered metal top plate, front plate with aluminium trimmings

Dimensions: 52 × 38 × 20·3 cm (20½ × 15 × 8 inches)

Weight: 11 kg (24 lb)

Mains: 110, 127, 220, 240 volts

Mains frequencies: 50 or 60 Hz

Max reel diameter: 18 cm (7″)

No. of tracks: 4

Tape speeds: 19, 9·5, 4·75 cm/s (7½, 3¾, 1⅞ ips)

Signal-to-noise ratio: ⩾50dB

Wow and flutter: ⩽0·15% at 7½ ips (acc DIN)

Winding time ⩽180 seconds (7″ reel of LP tape)

Frequency response:
40-20,000 (Hz) at 7½ ips
40-16,000 (Hz) at 7½ ips (with built-in stereo interference filter)
40-15,000 (Hz) at 3¾ ips
60-8,000 (Hz) at 1⅞ ips
} Within 6dB overall

Input/Output Sockets:
Microphone L and ST: Input 0.15 mV/2 kΩ
Microphone R: Input 0.15 mV/2 kΩ
Gramophone: Input 1.5 mV/47 kΩ
Auxiliary: Input 2 mV/20 kΩ
Input 100 mV/1 MΩ
Radio/Amplifier: Input 2 mV/20 kΩ. Input 100 m V/1 MΩ
Output 1 V/50 kΩ
Tuner: Input 100 mV/100 kΩ
Monitor: Output 1 V/50 kΩ
Headphones: Output 3 V/400-600 Ω
Remote Control, connection for remote control unit N6719 (available as an additional accessory)

OPTIONAL EXTRAS:

A range of microphones, headphones, and connecting cables.
N6719 – remote control unit with illuminated tip-touch controls Length of cable approx. 7 m.
N6400 – slide synchroniser.
CE10 – endless loop reel.

Hi-Fidelity Stereo Tape Recorder N4416

This Hi-Fi Stereo Tape Recorder offers a tremendous range of facilities, and is outstanding in its price bracket. Conforms with DIN 45 500 (Hi-Fi standard) when used with an external Hi-Fi amplifier and speaker system.

There are three motors – two motors for the tape reels, and one electronically governed DC capstan motor. These, with the tape tension comparators, maintain accurate speed stability.

The pushbuttons together with solenoid control of the tape transport mechanisms ensure maximum reliability and quietness in operation.

You get 3-speed 4-track mono/stereo recording and playback; duoplay; multiplay; mixing; and monitoring during recording.

Other features include automatic end-of-tape stop; 4-digit counter with zero reset button; precise sliding controls; front sockets for headphones and microphones – under sliding lid; two illuminated VU-type meters; a transparent lid is also provided.

The amplifier section has a power output of 2 x 5 watts (RMS). And the two loudspeakers are in properly designed built-in acoustical boxes. Supplied complete with a mono microphone, stereo connecting lead, 7″ LP tape, 7″ empty reel and 3 head-cleaning sticks.

TECHNICAL DATA

Cabinet: Black polystyrene, wooden side panels with walnut veneer, black lacquered metal top plate. Front plate with aluminium trimmings

Dimensions: (lid included) 51·6 × 38 × 20 cm (20⅜ × 15 × 7⅞ inches)

Weight: 10 kg (22 lb)

Max reel diameter: 18 cm (7″)

Tape speeds: 19, 9·5, 4·75 cm/s (7½, 3¾, 1⅞ ips)

Frequency response:
40-18,000 (Hz) at 7½ ips
40-16,000 (Hz) at 7½ ips (with built-in stereo interference filter)
40-15,000 (Hz) at 3¾ ips
60-8,000 (Hz) at 1⅞ ips
} Within 6dB overall

Signal-to-noise ratio: ⩾48dB

Wow and flutter: ⩽0·15% at 7½ ips

Winding time: for 7″ reel with LP tape (540 m) ⩽180 seconds

Output power: 2 × 5 watts (± 1dB)

Input/Output sockets:
Microphone L and ST: Input 0.2 mV/2 kΩ
Microphone R: Input 0.2 m V/2 kΩ
Radio/Amplifier: Input 2 mV/20 kΩ. Output 1 V/50 kΩ
Gramophone: Input 100 m V/1 MΩ
Headphones: Output 3 V/400-600 Ω
Loudspeakers: 4 or 8 Ω

Mains voltages: 110, 127, 220, 240 volts

Mains frequencies: 50 or 60 Hz (no conversion needed)

Built-in acoustical boxes: 2 × 5 litres (approx.)

Loudspeaker dimensions: 4 × 6 inches (2 ×)

OPTIONAL EXTRAS:

A wide range of microphones, headphones, tapes and loudspeaker enclosures.
N6400 – Slide Synchroniser.

Hi-Fidelity Stereo Tape Recorder N4414

Stereo sound with elegant looks are yours with this fine recorder. Superb styling is matched with outstanding recording performance and excellent playback quality. Conforms to DIN 45 500 (Hi-Fi standard) when used with an external Hi-Fi amplifier and speaker system.

High-quality features include three motors – two motors for the tape reels, and one electronically governed DC capstan motor. These, with the tape tension comparators, maintain accurate speed stability.

Pushbuttons and precise sliding controls simplify operation. There's a 4-digit tape counter with zero reset, and automatic end-of-tape stop. Illuminated VU-type meter; a transparent lid is also provided.

A full complement of input/output sockets provided. For simplicity, the sockets for microphones are at the front, concealed under a sliding lid.

Facilities include 2-speed, 4-track stereo and mono recording and playback, and monitoring. Supplied complete with mono microphone, stereo connecting lead, 7″ LP tape, 7″ empty reel and 3 head-cleaning sticks.

TECHNICAL DATA:

Cabinet: Black polystyrene; side panels with wood pattern; front plate with aluminium trimmings

Dimensions: (lid included) 48 × 34·5 × 19 cm ($18\frac{7}{8} \times 13\frac{5}{8} \times 7\frac{1}{2}$ inches)

Weight: 9 kg (19·8 lb)

Max. reel diameter: 7″

Tape speeds: 19, 9·5 cm/s ($7\frac{1}{2}$, $3\frac{3}{4}$ ips)

Frequency response: (overall) 40-18,000 (Hz) at $7\frac{1}{2}$ ips – (40-16,000 (Hz) with built in stereo interference filter) 40-15,000 (Hz) at $3\frac{3}{4}$ ips

Signal to Noise Ratio: ⩾48dB

Wow and flutter: ⩽0·15% at $7\frac{1}{2}$ ips

Winding time: for 7″ reel with LP tape (540 m) ⩽180 seconds

Output power: 2 × 3 watts (±1dB)

Input/Output sockets:
Microphone L and ST: Input 0.2 m V/2 kΩ
Microphone R: Input 0.2 m V/2 kΩ
Gramophone: Input 100 m V/1 MΩ
Radio/Amplifier: Input 2 m V/20 kΩ. Output 1 V/50 kΩ
Loudspeakers: 4 or 8 Ω

Mains voltages: 110, 127, 220, 240 volts

Mains frequencies: 50 or 60 Hz (no conversion needed)

Built-in acoustical boxes: 2 × 3 litres (approx.)

Loudspeaker dimensions: 4 inches (2 ×)

OPTIONAL EXTRAS:
A wide range of microphones, tapes and loudspeaker enclosures.
N6400 – Slide Synchroniser.

De-Luxe Four-Track Mono Recorder N4308

You had a marvellous holiday and you want to match a commentary to your slide show. Right – this is the machine for you, using it in conjunction with a Slide Synchroniser!

Mono recording and playback. Four tracks giving a total of six hours recording at a speed of 9·5 cm/s, which is recommended for music. Alternatively, in circumstances where the recording quality is not so critical, the tape recorder can be switched to give twelve hours recording at 4·75 cm/s.

Facilities for mixing, and for monitoring via its built-in loudspeaker. Supplied with cardioid moving coil microphone. 7″ reel of LP tape. 7″ empty spool, direct recording/playback lead and library rack.

TECHNICAL DATA:
Cabinet: Dark brown polystyrene, vinyl covered side panels with American walnut pattern and brushed aluminium trimmings
Dimensions: 41·9 × 29·8 × 14·9 cm (16½ × 11¾ × 5⅞ inches)
Weight: 8 kg (17¾ lb)
Mains: 110, 127, 220, 240
Mains frequency: 50 Hz
Mains consumption: 45W approx.
Tape speeds: 9·5, 4·75 cm/s (3¾, 1⅞ ips)
Max reel diameter: 7 inches
Playing time: 18 cm (7″) reel of LP tape at 9·5 cm/s = 4 × 1.5 hours
Fast wind/rewind time: 210 seconds for 18 cm (7″) reel of LP tape
Number of tracks: 4
Frequency response:
60-14,000 (Hz) at 3¾ ips
80-8,000 (Hz) at 1⅞ ips
} Within 6dB overall.
Output power (sine wave):
5W (±1dB) at 8Ω
3W (±1dB) at 4 Ω
Loudspeaker size: 6 × 4 inches elliptical
Signal to noise ratio: > 45dB
Wow & flutter: ±0.25% at 3¾ ips DIN
Monitoring during recording: Loudspeaker or headphones
Recording level indicator: Meter
Recording level control: Manual
Programme indicator: 3-digit counter
Inputs:
Microphone: 0.2 m V/2 kΩ
*Radio/diode: 2.0 m V/20 kΩ
*Pick-up: 150 m V/1.5 MΩ
(*combined socket).
Outputs:
Ext Loudspeakers:
5W (±1dB) at 8 Ω
3W (±1dB) at 4 Ω
Radio/diode: 750 m V/20 kΩ
OPTIONAL EXTRAS:
RH421 – Loudspeaker.
N6206 – Microphone connection/extension cable.
Wide range of microphones of different characteristics.
CE10 – Endless Loop Reel.
SK10 – Splicing Kit.
Range of headphones.

Family Four-Track Mono Recorder N4307

Special occasions, such as weddings, call for special ways of remembering. And nothing records your sound memories better than this magnificent four-track tape recorder. Precision design, simple operation, outstanding reproduction.

4 tracks with facilities for mono playback of two parallel tracks. Pause control. Monitoring facilities.

Combined socket for recording from radio, record player, or second recorder. External loudspeaker socket. Supplied complete with moving coil microphone. 7″ reel LP tape, empty spool and direct recording/playback lead.

TECHNICAL DATA:

Cabinet: Dark brown polystyrene, vinyl covered side panels with American walnut pattern and brushed aluminium trimmings
Dimensions: 41·9 × 29·8 × 14·9 cm (16½ × 11¾ × 5⅞ inches)
Weight: 8 kg (17¾ lb)
Mains: 110, 127, 220, 240 volts
Mains frequency(Hz): 50
Mains consumption: 40 watts
Tape speed: 9·5 cm/s (3¾ ips)
Max reel diameter: 7 inches
Playing time: of 18 cm (7″) reel of LP tape – 4 × 1.5 hours
Fast wind/rewind time: ⩽210 seconds for 18 m (7″) reel of LP tape
Number of tracks: 4
Frequency response: 60-14,000 (Hz) within 6dB
Output power (sine wave):
2.5W (±1dB) at 8 Ω
1.5W (±1dB) at 4 Ω
Loudspeaker size: 6 × 4 inches elliptical
Signal to noise ratio: 45dB
Wow & flutter: ±0.25% DIN
Monitoring during recording: Loudspeaker
Recording level indicator: Meter
Recording level control: Manual
Programme indicator: 3-digit counter
Additional facilities: Parallel playback
Inputs:
*Microphone: 0.2 m V/2 kΩ
*Radio/diode: 0.2 m V/2 kΩ
*Pick-up: 150 m V/1.5 MΩ
Outputs:
*Radio/diode: 750 m V/20 kΩ
Ext. Loudspeaker:
2.5W (±1dB) at 8 Ω
1.5W (±1dB) at 4 Ω
*combined input/output socket

OPTIONAL EXTRAS:
RH421 – Loudspeaker.
N6206 – Microphone connection/extension cable.
Wide range of microphones of different characteristics.
CE10 – Endless Loop Reel.
SK10 – Splicing Kit

Tape Recorder Accessories

Here are just a few examples of the wide range of Philips accessories available to add new dimensions in performance and versatility to your existing equipment. A complete accessory brochure is available. Your Philips Dealer will gladly supply further details on request.

N6300 (illustrated)
Hi-Fi stereo headphones with connections to a mono or stereo socket output. Frequency range 40-18000 Hz.

N6302 (illustrated)
Hi-Fi stereo headphones with connections to a standard DIN mono or stereo socket output. Sound dimensional control provided for altering stereo effect. Frequency range 16-20000 Hz.

N6301 (illustrated)
Hi-Fi stereo headphones with connections to a standard DIN mono or stereo socket output. Frequency range 20-20000 Hz.

N6400 (illustrated)
Synchronise your slide projector and reel-to-reel tape recorder.

N8402 (illustrated)
Cardioid moving-coil stereo microphone, coupling unit and table stand.

N6206 (not illustrated)
Microphone extension cable.

N8306 (illustrated)
Cardioid wide band dynamic microphone.

A range of connecting leads available from Combined Electronic Services Ltd 604 Purley Way Waddon, Croydon.

EL3768/14
Stereo connecting lead (illustrated)
Also available as mono but not illustrated—
EL 3768/10

N8212 (illustrated)
Omni-directional microphone.

N8500 (not illustrated)
New high-quality Hi-Fi monaural electret microphone, with detachable wind screen to guard against extraneous noise.

Other microphones available but not illustrated are the N8208, N8206/50, N8210, N8402, N8211 and N8307.

Philips Tapes

Philips tape recorders have undergone tremendous improvement in the past few years. But however good a tape recorder, it cannot give its best performances unless the magnetic tape is of the same high quality.

And so, Philips High-Fidelity/Low Noise Tape. A vastly improved magnetic tape that practically eliminates background noise and produces recordings of brilliant clarity.

Packed in durable plastic boxes to keep out dust and prevent damage, Philips High Fidelity/Low Noise tapes are always in mint condition. Library storage racks available.

	Reel Diameter	Length (Approx.)	Total Playing Times on Four-track Mono Tape Recorders in Hours and Minutes (Approx.)			
			2·38 cm/s ($1\frac{1}{8}$ i.p.s.)	4·75 cm/s ($1\frac{7}{8}$ i.p.s.)	9·5 cm/s ($3\frac{3}{4}$ i.p.s.)	19 cm/s ($7\frac{1}{2}$ i.p.s.)
Standard (green box)	12·7 cm (5″)	182·9 m (600 ft)	8 hrs. 32 min	4 hrs. 16 min	2 hrs. 8 min	1 hr. 4 min
	14·6 cm ($5\frac{3}{4}$″)	274.3 m (900 ft)	12 hrs. 48 min	6 hrs. 24 min	3 hrs. 12 min	1 hr. 36 min
	17·8 cm (7″)	365·8 m (1200 ft)	17 hrs. 4 min	8 hrs. 32 min	4 hrs. 16 min	2 hrs. 8 min
Longplay (red box)	12·7 cm (5″)	274·3 m (900 ft)	12 hrs. 48 min	6 hrs. 24 min	3 hrs. 12 min	1 hr. 36 min
	14·6 cm ($5\frac{3}{4}$″)	365·8 m (1200 ft)	17 hrs. 4 min	8 hrs. 32 min	4 hrs. 16 min	2 hrs. 8 min
	17·8 cm (7″)	548·6 m (1800 ft)	25 hrs. 36 min	12 hrs. 48 min	6 hrs. 24 min	3 hrs. 12 min
	26·7 cm ($10\frac{1}{2}$″)	1097·2 m (3600 ft)	—	—	12 hrs. 48 min	6 hrs. 24 min
Double-play (blue box)	12·7 cm (5″)	365·8 m (1200 ft)	17 hrs. 4 min	8 hrs. 32 min	4 hrs. 16 min	2 hrs. 8 min
	14·6 cm ($5\frac{3}{4}$″)	548·6 m (1800 ft)	25 hrs. 36 min	12 hrs. 48 min	6 hrs. 24 min	3 hrs. 12 min
	17·8 cm (7″)	731·6 m (2400 ft)	34 hrs. ·8 min	17 hrs. 4 min	8 hrs. 32 min	4 hrs. 16 min
Tripleplay (olive box)	12·7 cm (5″)	548·6 m (1800 ft)	25 hrs. 36 mins.	12 hrs. 48 mins.	6 hrs. 24 mins.	3 hrs. 12 min

All tapes available in library boxes. CE10 Continuous Tape Reel playing time 20 mins, at 4·75 cm/s ($1\frac{7}{8}$ IPS.)
When ordering Philips tapes simply ask your dealer for reel sizes and colour, where applicable.

Simply years ahead.

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PHILIPS ELECTRICAL LIMITED, CENTURY HOUSE, SHAFTESBURY AVENUE, LONDON WC2H 8AS
Philips Electrical Limited reserves the right to alter specifications, withdraw goods or amend prices without prior notice. You are advised to consult your Philips Dealer before purchasing.

PEC 9555
Printed August 1973

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Suggested selling price for:

Radios
Car Radios
Record Players
Audio Equipment
Televisions
Tape Recorders
Cassette Recorders
Magnetic Tape
Compact Cassettes
Tape Recorder &
Tape Accessories

price list
April 1974

Model		Suggested Selling Price incl. 10% V.A.T.	Country of Origin
RADIO MAINS			
RS 204		31.95	J
RB 192		32.50	NL
RB 212		44.50	NL
PORTABLES			
RL 020		7.35	SGP
RL 120		8.95	SGP
RL 210		14.25	SGP
RL 113		12.95	HK
RL 300		15.75	SGP
RL 311		23.95	SGP
RL 411		20.81	HK
RL 412		25.95	HK
RL 414		31.95	HK
RL 425		34.95	F
RADIO RECORDERS			
RR 300		46.95	NL
RR 332		51.95	NL
RR 522		63.95	SF
RR 622		74.95	SF
CAR RADIOS AND ACCESSORIES			
RN 134		21.50	F
RN 234/15		20.50	F
RN 234/05		23.15	F
RN 314/15		28.25	D
RN 314/05		31.25	D
RN 311/15		33.00	F
RN 232		47.25	F
RN 531		58.80	D
RN 512		124.50	D
RN 712		177.50	D
RP 335/15		26.90	HK
ET 4684		40.64	NL
N2605		24.65	NL
N2607/00		39.85	NL
N2607/97		45.65	NL
N6705		14.54	NL
CAR RADIO AERIALS			
AF 7422	Side Mounted Aerial	3.20	F
AF 7424	Roof Mounted Aetial	3.30	F
AF 7440	Semi Retractable Aerial	2.15	F
AF 7454	Fully Retractable Aerial	3.60	F
EN 7455	Fully Retractable Lockable Aerial	4.25	F
EN 7445	14' Extension Lead	1.95	NL
EN 9851	7'2" Extension Lead	1.30	NL
EN 7462	Roof Mounted Aerial	4.60	F
EN 7463	57° Fully Retractable Aerial	4.85	F
ELECTRIC AERIALS (available early 1974)			
EN 7467	Standard	13.50	GB
EN 7468	Automatic	15.50	GB
EN 7469	De Luxe Automatic	18.00	GB
EN 7474	Cable Extension Pack	3.96	GB
GENERAL ACCESSORIES			
N6201	Connecting Cable to Car Radio without Tape Recorder Socket	1.10	NL
N6705	Car Mounting Unit for Cassette Recorders	14.54	NL
EN 9745	Loudspeaker Balance Control	1.65	GB
EN 3134	4 Loudspeaker Fader Control	2.97	GB
EN 8893/06	G.P. Mounting Kit & Loudspeaker	2.85	GB
EN 8890/06	De Luxe G.P. Kit & Speaker	7.50	GB
CCH5	Car Cassette Holder	3.96	NL
CAR RADIO LOUDSPEAKERS			
EN 7377	Door mounting loudspeaker, bezel, grille	3.70	I
EN 7380	De Luxe loudspeaker enclosure	3.55	NL
EN 3113	Loudspeaker housing c/w loudspeaker	3.15	GB
EN 7345	8" x 5" Elliptical	1.75	GB
EN 7351	5" Round	1.71	B
EN 7352	6½" Round	1.71	B
EN 7355	6" x 4" Elliptical	1.71	B
EN 7356	8" x 3" Elliptical	1.71	B
EN 7371	7" x 3⅝" Elliptical	1.55	GB
*EN 3138	5" Twin Cone	2.20	B
*EN 3139	5" Hi Q	4.07	B
EN 7384	Hi Q Loudspeaker Enclosure	12.00	F
BEZELS AND GRILLES			
EN 3135	6" x 4" Chrome Bezel and Grille	1.10	GB
EN 3136	6" x 4" Black Bezel and Grille	1.10	GB
EN 8774	5" Chrome Bezel and Grille	1.10	GB
EN 8775	5" Black Bezel and Grille	1.00	GB
EN 8756	6½" Chrome Bezel and Grille	1.25	GB
EN 8752	6½" Black Bezel and Grille	1.10	GB

*Recommended to be installed by Car Radio Specialists

Code: A-Austria, B-Belgium, D-Germany, F-France, GB-Gt.Britain, HK-H

Model		Suggested Selling Price incl. 10% V.A.T.	Country of Origin
AUDIO EQUIPMENT			
Record Players			
GF 103	Battery:Mono	18.95	F
GF 403	Mains/battery: Mono	25.50	F
GF 603	Mains/battery: Stereo	34.95	F
GF 827	Including loudspeakers	47.50	GB
GF 829	Including loudspeakers	59.50	GB
GF 815	Including loudspeakers	74.50	NL
GF 828	Including loudspeakers	79.50	GB
GF 660	Including loudspeakers	85.00	D
GF 808	Including loudspeakers	105.00	NL
GR 804	Including loudspeakers	108.00	F
GF 908	Including loudspeakers	172.00	NL
EGO 330	Audio Stand	10.01	GB
Amplifiers			
RH 520		87.50	NL
RH 521		135.00	NL
Tuner/Amplifiers			
RH 901	(including loudspeakers)	94.50	SF
RH 702		112.00	SF
RH 720		235.00	NL
Tuners			
RH 690		55.00	NL
RH 621		125.00	NL
Loudspeaker Enclosures			
RH 421		12.00	SF
RH 422		22.00	SF
RH 426		39.50	NL
RH 427		57.50	NL
RH 532	Motional Feedback Loudspeaker	125.00	NL
Record Decks			
GA 207	Including ceramic pick-up head	34.00	NL
GA 407	with Mag.Dyn.pick-up cartridge	49.00	NL
GA 212	with Mag.Dyn.pick-up cartridge	75.00	NL
Combination Units			
RF 839	Including loudspeakers	85.00	GB
RF 838	Including loudspeakers	115.00	GB
RH 814	Including loudspeakers	155.00	SF
RH 802	without loudspeakers	179.00	SF
RH 811	Including loudspeakers	149.00	SF
RH 837	Including loudspeakers	239.00	SF
RH 943	Including loudspeakers	210.00	SF
Audio Systems			
RH 520 System:	RH 520/GA407/2xRH422	180.50	
RH 702 System:	RH 702/GA407/2xRH422	205.00	
RH 901 System:	RH 901/GA207	128.50	
RH 802 System:	RH 802/2XRH426	258.00	
COLOUR TELEVISION			
550	22"	264.74	GB
552	22"	270.55	GB
551	22"	267.65	GB
553	22"	278.30	GB
526	26"	310.53	GB
527	26"	326.61	GB
536	26"	314.05	GB
537	26"	331.64	GB
MONOCHROME TELEVISION			
312	12" SS UHF only	72.50	SGP
320	17" SS including stand	75.79	GB
322	20" SS including stand	79.33	GB
324	24" SS including stand	88.79	GB
TELEVISION ACCESSORIES			
ET 2124	Legs	2.39	GB
TAPE RECORDERS			
N4307		52.50	A
N 4308		61.50	A
N 4414		125.00	A
N 4416		151.50	A
N 4418		208.50	A
N 4450		308.00 —	A
N 4510		193.00	A
Cassette Recorders/Players			
EL 3302P		23.40	A,NL or SGP
N 2203		26.10	A
N 2204		32.50	A
N 2209	with LFD 3442 Slide synchroniser	57.75	A with D

Kong,I-Italy,IRL-Eire,NL-Netherlands,J-Japan,SF-Finland,SGP-Singapore

Model		Approx. Length	Suggested Selling Price incl. 10% V.A.T.	Country of Origin
Cassette Recorders/Player (Continued)				
N 2205			46.20	A
N 2211			31.60	NL
N 2220			35.50	A
N 2221			33.00	SGP
N 2223			55.00	NL
N 2400	with loudspeakers		100.10	NL with SF
N 2401S			100.10	A
N 2401S	with loudspeakers		126.50	A with SF
N 2405			78.10	NL
N 2506			70.70	NL
N 2000			14.30	NL
N 2225			57.20	NL
N 2510			137.50	NL
N 2407			143.00	A
N 2509			99.00	A

TAPE RECORDER ACCESSORIES

N 6308	Mono Headphones	3.96	NL
N 6502	Mains Unit	6.75	F
N 6706	Carrying Case for N 2205	3.07	NL
N 6721	Carrying Case for N 2211	1.14	NL
N 6722	Carrying Case for N 2225	2.75	NL
N 8206/50	Microphone with Stop/Start Switch for N2205	7.15	NL
N 8210	Microphone with Stop/Start Switch for EL 3302/N 2203	4.38	NL
N 8306	Microphone	5.78	NL
N 8307	Microphone	5.78	NL
N 8500	HiFi Electret Cardiod Microphone	16.00	A
N 8211	Microphone	4.50	NL
N 8200	Microphone with Stop/Start Switch for EL3302,N2203,N2204,N2220	4.50	NL
N 8402	Stereo Microphone	8.25	NL
N 6400	Slide Synchroniser	16.16	A
N 6720	DNL Unit	18.50	J
N 6719	Remote Control for N4418,N4450 & N4510	15.00	A
N 6300	Stereo Headphones	7.00	NL
N 6301	Stereo Headphones	11.00	A
N 6302	HiFi Stereo Headphones	22.00	A
*N 6206	Microphone Extension Cable for Mono/Stereo	2.11	NL
*EL 3768/04	Recording Lead	1.17	NL
*EL 3768/10	Recording Lead	0.99	NL
*EL 3768/14	Recording Lead	1.09	NL
*EL 3768/03	Recording Lead	0.73	NL
*LBB 9908	Headphone Adaptor	2.47	NL

PHILIPS HIGH FIDELITY LOW-NOISE MAGNETIC TAPE

5"	Red LP13 (in library case)	900'	1.96	NL
5"	Blue DP13 (in library case)	1200'	2.60	NL
5"	Olive TP13 (in library case)	1800'	3.75	NL
5¾"	Red LP15 (in library case)	1200'	2.25	NL
5¾"	Blue DP15 (in library case)	1800'	3.60	NL
7"	Red LP18 (in library case)	1800'	3.30	NL
7"	Blue DP18 (in library case)	2400'	4.45	NL
10½"	LP26 (in cardboard box)	3600'	7.60	NL
C60	LOW NOISE Compact Cassette		0.85	GB or A
C90	LOW NOISE Compact Cassette		1.19	A
C120	LOW NOISE Compact Cassette		1.75	A
C60	CRO_2 HiFi Cassette		1.46	NL
C90	CRO_2 HiFi Cassette		1.90	NL
CC 3	Continuous Loop Compact Cassette		1.25	NL
5"	Empty Reel (in cardboard box)		0.23	NL or GB
5¾"	Empty Reel (in cardboard box)		0.27	NL or GB
7"	Empty Reel (in cardboard box)		0.29	NL or GB
10½"	Empty Reel (in cardboard box)		1.09	NL
5"	Library Case		0.19	NL or GB
5¾"	Library Case		0.20	NL or GB
7"	Library Case		0.21	NL or GB
SK 10 Splicing Kit			1.70	NL
EL 1907/52 Endless Loop Cassette CE 10			3.84	NL
LT 10 (EL 1900/10) White Leader Tape			0.17	NL
LT 20 (EL 1900/20) Green Leader Tape			0.17	NL
LT 30 (EL 1900/30) Red Leader Tape			0.17	NL
EL 3880/50 Switch Foil			0.20	NL
EL 3916/10 Joining Tape			0.40	NL
Cassette Cleaning Tape			0.76	NL

**Items marked with asterisk are only available from Combined Electronic Services Ltd., 604 Purley Way Waddon, Croydon CR9 4DR*

Philips Electrical Ltd., Century House, Shaftesbury Avenue, London WC2H 8AS

Philips reserve the right to revise prices and/or withdraw goods without prior notice.

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